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Practitioner's Docket No. MSU 4.1-568 **PATENT**

Thomas J. Pinnavaia, Wenzhong Zhang and

- ☒ Applicant Yi Liu ☐ Patentee _____
☐ Application No. _____ ☐ Patent No. _____
☐ Filed on _____ ☐ Issued on _____

Title: ULTRASTABLE POROUS ALUMINOSILICATE STRUCTURES
AND COMPOSITIONS DERIVED THEREFROM

STATEMENT OF STATUS AS SMALL ENTITY
(37 C.F.R. § 1.27(a)(3))—NONPROFIT ORGANIZATION

I hereby state that I am an official empowered to act on behalf of the nonprofit organization identified below:

Name of Nonprofit Organization Michigan State University
Address of Nonprofit Organization 238 Administration Building
East Lansing, Michigan 48824

TYPE OF NONPROFIT ORGANIZATION

- ☒ University or other institution of higher education (located in any country)
☐ Tax exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3))
☐ Nonprofit scientific or educational under statute of state of the United States of America (35 U.S.C. 201(f))
(Name of State _____)
(Citation of Statute _____)
☐ Would qualify as tax exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3)), if located in the United States of America
☐ Would qualify as Nonprofit Scientific or Educational under statute of state of the United States of America or would be tax exempt under the Internal Revenue Service Code (26 U.S.C. 501(a) and 26 U.S.C. 501(c)(3)) if located in the United States of America
(Name of State _____)
(Citation of Statute _____)

I hereby state that the nonprofit organization identified above qualifies as a nonprofit organization, as defined in 37 C.F.R. § 1.27(a)(3), for purposes of paying reduced fees to the United States Patent and Trademark Office under Sections 41(a) and (b) of Title 35, United States Code, with regard to the invention described in

- ☒ the specification filed herewith, with title as listed above.
☐ the application identified above.
☐ the patent identified above.

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ORIGINALY FILED

I hereby state that rights under contract or law have been conveyed to, and remain with, the nonprofit organization, with regard to the above identified invention.

If the rights held by the nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed below" and no rights to the invention are held by any person, other than the inventor, who would not qualify as a person under 37 C.F.R. § 1.27(a)(1), if that person made the invention, or by any concern that would not qualify as a small business concern under 37 C.F.R. § 1.27(a)(2), or a nonprofit organization under 37 C.F.R. § 1.27(a)(3)

NOTE: Separate statements should be obtained from each named person, concern or organization having rights to the invention as to their status as small entities.

Each such person, concern or organization having any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
☐ Each such person, concern or organization is listed below.

Name _____

Address _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

Name _____

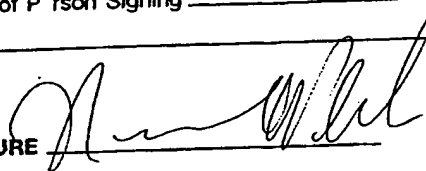
Address _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.27(g)(2))

NOTE: "The presentation to the Office (whether by signing, filing, submitting, or later advocating) of any paper by a party, whether a practitioner or non-practitioner, constitutes a certification under § 10.18(b) of this chapter. Violations of § 10.18(b)(2) of this chapter by a party, whether a practitioner or non-practitioner, may result in the imposition of sanctions under § 10.18(c) of this chapter. Any practitioner violating § 10.18(b) may also be subject to disciplinary action. See §§ 10.18(d) and 10.23(c)(15)." 37 C.F.R. § 1.4(d)(2).

Name of Person Signing Norman M. Pollack, Ph.D.
Assistant Vice President for Intellectual Property
Michigan State University
Title in Organization _____
Address of Person Signing _____

SIGNATURE  Date 12/13/01

**COMBINED DECLARATION AND POWER OF ATTORNEY**

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL, CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

(check one applicable item below)

☐ original.☐ design.

NOTE: With the exception of a supplemental oath or declaration submitted in a reissue, a supplemental oath or declaration is not treated as an amendment under 37 CFR 1.312 (Amendments after allowance). M.P.E.P. § 714.16, 7th Edition.

☒ supplemental.

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

☐ national stage of PCT.

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

NOTE: See 37 C.F.R. § 1.63(d) (continued prosecution application) for use of a prior nonprovisional application declaration in the continuation or divisional application being filed on behalf of the same or fewer of the inventors named in the prior application.

☐ divisional.☐ continuation.

NOTE: Where an application discloses and claims subject matter not disclosed in the prior application, or a continuation or divisional application names an inventor not named in the prior application, a continuation-in-part application must be filed under 37 C.F.R. § 1.53(b) (application filing requirements — nonprovisional application).

☒ continuation-in-part (C-I-P).**INVENTORSHIP IDENTIFICATION**

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTIONULTRASTABLE POROUS ALUMINOSILICATE STRUCTURESAND COMPOSITIONS DERIVED THEREFROM

(Declaration and Power of Attorney [1-1]—page 1 of 7)

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SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b), or (c))

(a) ☐ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed;
or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☒ was filed on 12/19/2001, as ☒ Serial No. 10/025,647
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 C.F.R. § 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(A) application number (consisting of the series code and the serial number, e.g., 08/123,456);

"(B) serial number and filing date;

"(C) attorney docket number which was on the specification as filed;

"(D) title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(E) title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number, e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

M.P.E.P. § 601.01(a), 7th Ed.

(c) ☐ was described and claimed in PCT International Application No. _____, filed on _____ and as amended under PCT Article 19 on _____ (if any).

SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))

(complete the following where a supplemental declaration is being submitted)

- ☐ I hereby declare that the subject matter of the
- ☐ attached amendment
 - ☐ amendment filed on _____

was part of my/our invention and was invented before the filing date of the original application, above-identified, for such invention.

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- ☒ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. § 1.98.

PRIORITY CLAIM (35 U.S.C. §§ 119(a)-(d), (f) 172, and 365(a) and (b))

NOTE: 37 C.F.R. § 1.55 Claim for foreign priority.

"(a) An applicant in a nonprovisional application may claim the benefit of the filing date of one or more prior foreign applications under the conditions specified in 35 U.S.C. 119(a) through (d) and (f), 172, and 365(a) and (b).

(1)(i) In an original application filed under 35 U.S.C. 111(a), the claim for priority must be presented during the pendency of the application, and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior foreign application. This time period is not extendable. The claim must identify the foreign application for which priority is claimed, as well as any foreign application for the same subject matter and having a filing date before that of the application for which priority is claimed, by specifying the application number, country (or intellectual property authority), day, month, and year of its filing. The time period in this paragraph does not apply to an application for a design patent.

(ii) In an application that entered the national stage from an international application after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and the Regulations under the PCT."

(2) The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) or PCT Rule 17 must, in any event, be filed before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by the processing fee set forth in § 1.17(f), but the patent will not include the priority claim unless corrected by a certificate of correction under 35 U.S.C. 255 and § 1.323

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(Declaration and Power of Attorney [1-1]—page 3 of 7)

(complete (d) or (e))

(d) ☒ no such applications have been filed.

(e) ☐ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER

FILING DATE

____ / _____

____ / _____

____ / _____

CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. § 120

- ☒ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN PART (C-I-P) APPLICATION.

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete **ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION** for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

Ian C. McLeod - Registration No. 20,931

Mary M. Moyne - Registration No. 35,962

(check the following item, if applicable)

- ☒ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

NOTE: "Special care should be taken in continuation or divisional applications to ensure that any change of correspondence address in a prior application is reflected in the continuation or divisional application. For example, where a copy of the oath or declaration from the prior application is submitted for a continuation or divisional application filed under 37 CFR 1.53(b) and the copy of the oath or declaration from the prior application designates an old correspondence address, the Office may not recognize, in the continuation or divisional application, the change of correspondence address made during the prosecution of the prior application. Applicant is required to identify the change of correspondence address in the continuation or divisional application to ensure that communications from the Office are mailed to the current correspondence address. 37 CFR 1.63(d)(4)." § 601.03, M.P.E.P., 7th Edition.

SEND CORRESPONDENCE TO

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

☒ Address
**McLeod & Moyne, P.C.
2190 Commons Parkway
Okemos, Michigan 48864**

**Ian C. McLeod
(517) 347-4100**

☒ Customer Number 21036

(complete the following if applicable)

Since this filing is a ☐ continuation ☐ divisional there is attached hereto a Change of Correspondence Address so that there will be no question as to where the PTO should direct all correspondence.

(Declaration and Power of Attorney [1-1]—page 5 of 7)

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

NOTE: Each inventor must be identified by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial, and by his/her residence, post office address and country of citizenship. 37 CFR § 1.63(a)(3).

NOTE: Inventors may execute separate declarations/oaths provided each declaration/oath sets forth all the inventors. Section 1.63(a)(3) requires that a declaration/oath, inter alia, identify each inventor and prohibits the execution of separate declarations/oaths which each sets forth only the name of the executing inventor. 62 Fed. Reg. 53,131, 53,142, October 10, 1997.

Full name of sole or first inventor

THOMAS J. PINNAVAIA
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)

Inventor's signature _____

Date _____ Country of Citizenship U.S.

Residence East Lansing, Michigan

Post Office Address 5901 Sleepy Hollow

East Lansing, Michigan 48823

Full name of second joint inventor, if any

WENZHONG ZHANG
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)

Inventor's signature Wenzhong Zhang

Date Jan 2, 2002 Country of Citizenship Peoples Republic of China

Residence Broken Arrow, Oklahoma

Post Office Address 1124 S. Tamarack Avenue

Broken Arrow, Oklahoma 74012

Full name of third joint inventor, if any

YU LIU
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)

Inventor's signature _____

Date _____ Country of Citizenship Peoples Republic of China

Residence East Lansing, Michigan

Post Office Address 1644F Spartan Village

East Lansing, Michigan 48823

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

- ☐ **Signature** for fourth and subsequent joint inventors. *Number of pages added* _____

* * *

- ☐ **Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* _____

* * *

- ☐ **Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added* _____

* * *

- ☐ Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

* * *

- ☒ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added 3

* * *

- ☐ Authorization of practitioner(s) to accept and follow instructions from representative.

* * *

(if no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)

- ☐ **This declaration ends with this page.**

**ADDED PAGE TO COMBINED DECLARATION
AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION
OR C-I-P APPLICATION**

(complete this part only if this is a divisional, continuation or C-I-P application)



**CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

I hereby claim the benefit, under Title 35, United States Code, § 120, of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information

- ☒ that is material to patentability as defined in 37, Code of Federal Regulations, § 1.56

(also check the following item, if desired)

- ☒ and that is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent,

that occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application. (37 C.F.R. § 1.63(e)).

(also check the following item, if desired)

- ☐ In compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. § 1.98.

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PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 USC 120:				
U.S. APPLICATIONS		Status (check one)		
U.S. APPLICATIONS	U.S. FILING DATE	Patented	Pending	Abandoned
1.0 9/ 578,315	May 25, 2000		X	
2.0 9/ 792,017	February 21, 2001		X	
3.0 /				
PCT APPLICATIONS DESIGNATING THE U.S.				
PCT APPLI- CATION NO.	PCT FILING DATE	U.S. APPLICATION NOS. ASSIGNED (if any)		
4. _____	_____	0 / _____		
5. _____	_____	0 / _____		
6. _____	_____	0 / _____		

**35 USC § 119 PRIORITY CLAIM, IF ANY,
FOR ABOVE LISTED U.S./PCT APPLICATIONS**

ABOVE APPLICATION NO.	DETAILS OF U.S. PROVISIONAL OR FOREIGN APPLICATION FROM WHICH PRIORITY CLAIMED UNDER 35 USC § 119		
Please indicate appropriate PCT application no.	Country and Application No.	Date of filing (day, month, year)	Date of issue (day, month, year)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Thomas J. Pinnavaia, Wenzhong Zhang and Yu Liu Group No.: 1755

Application No.: 10/025,647

Filed: December 19, 2001

Examiner:

For: ULTRASTABLE POROUS ALUMINOSILICATE STRUCTURES AND COMPOSITIONS DERIVED THEREFROM

Assistant Commissioner for Patents
Washington, D.C. 20231

**STATEMENT BY PRACTITIONER THAT APPLICATION FILED IN PTO
IS THE ONE INVENTOR EXECUTED BY SIGNING DECLARATION**

NOTE: This form is to be used when the declaration only indicates the name(s) of the inventor(s) and the title of the invention. Notice of September 12, 1983, 1035 O.G. 2.

NOTE: The following combinations of information supplied in an oath or declaration being filed after the filed date are acceptable as minimums for identifying a specification and compliance with any one of the items will be accepted as complying with the identification requirements of 37 C.F.R. § 1.63:

"(A) application number (consisting of the series code and the serial number, e.g., 08/123,456);

"(B) serial number and filing date;

"(C) attorney docket number which was on the specification as filed;

"(D) title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(E) title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number, e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration.

M.P.E.P. § 601.01(a), 7th Ed.

I, Ian C. McLeod

Name of Practitioner

2190 Commons Parkway

P.O. Address

Okemos, Michigan 48864

Reg. No. 20,931

Tel. No. (517) 347-4100

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8a)

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: 3/6/02

FACSIMILE

☐ transmitted by facsimile to the Patent and Trademark Office.

Tammi L. Taylor

Signature

Tammi L. Taylor

(type or print name of person certifying)

(Statement by Practitioner That Application Filed in PTO is the One Inventor Executed by Signing Declaration
[5-10]—page 1 of 2)

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state I am the registered practitioner for this application and the application identified above is the application that the inventor(s) executed by signing the declaration that is being submitted herewith.


SIGNATURE OF PRACTITIONER

Customer No.: 21036